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# THE HORN SPEAKER

## From the Log of a Radio Man

Many a ship operator's log book is born to blush unseen, yet often the hastily jotted notes could reveal graphic and thrilling pictures of life at sea. This excerpt from a radio log written two summers ago appears to you, except for the changing of names and places, just as it stood originally.—THE EDITORS.

SHE WAS a small cargo vessel, and left Halifax in July, 1920. The first part of the voyage was made without special comment in the log, but on July 24th we find the following entries:

8:50 p.m. The engines were stopped and I tho't some minor repairs were necessary. Listening to several ships working when the Captain came into the wireless office with a strained look on his face, saying "You're in for it now."

Taking a pad he wrote the following:—

"SOS—*SS Verance* with broken propeller shaft in Lat. 4250 N. Long. 3326 W. 225 miles N 25 W true from Delgada Head."

8:57 p.m. Cleared air—broadcasted distress call on 600 meters, full power, main set. Confusion reigned supreme, several ships answering at same time.

Finally, arrangements were made for the *Wilca*, another vessel of the same line, to tow the *Verance* to the Azores. The *Wilca* arrived about daylight and by 10:40 a.m. the disabled vessel was taken in tow.

For July 25th, we read:

10:00 p.m. No sleep for 44 hours. Have arranged with oprs on *SS Wilca* to answer calls for me, and if they or any one else wants me badly to communicate by blinker light to our bridge.

1:40 a.m. Bridge called me to ans *Wilca* on Radio. *Wilca* said they did not signal us.

2:00 a.m. Back to sleep.

On July 29th, the following entry is made:

7:50 a.m. I must say right here that the operator on the *Wilca* is so poor he can hardly send, and I never worked harder in my life copying than this past 50 minutes. One thing the communication service should impart to the new men is that when the Captain gives them something to send, they should use his wording and stick to it, and not try and send fast, as they sure will make a fizzle of it. My trouble this morning was that the *Wilca's* Capt. would give his opr something to send to me and the kid would bat it out like fire, never stopping to make a perfect letter. Consequently I asked him to repeat, as I did not want to make any bulls. When he repeated he changed the entire wording of the message. This is not only out of order but very unbusinesslike.

12:15 p.m. Arrived Ponta Delgada.

Aug. 9th. Orders rec'd that we are to be towed to Gibraltar for repairs by the *SS McKender*.

Aug. 10th. Our Capt. tells me the *SS McKender* operator is very poor. Heard *SS McKender* working. Yes, the opr is even worse than the *Wilca* oprs were.

Aug. 11th. 6:00 p.m. *McKender* takes our anchor chain and commences towing us to Gibraltar.

7:50 p.m. *McKender* operator is very slow and both a poor sender and receiver, but think we shall get along O.K. He is using too much power. Will endeavor to coax him to use his head.

10:10 p.m. Circuit breaker went bad.

Aug. 12th. 10:40 a.m. Circuit breaker once more in commission. Have had more trouble with this breaker than any used before. It works magnificently until all the heavy work is over, and then lies down on the job.

Aug. 12th. 7:40 p.m. It's nice to be towing in back of another fellow and he wanting to work everybody on the Western Ocean. Nice for your Crystal Detector. Ha Ha.

Aug. 13th. 12:50 p.m. Our glass is down to 28.74. Blowing pretty bad with a heavy sea.

2:00 p.m. The sea is heavy. The *McKender* is pumping oil over, to knock down the sea. We have our storm tanks (oil) open, also bags of oil over the side.

4:30 p.m. Gale blowing.

4:45 p.m. Our tow line broke. We're in for it, no doubt.

4:57. We ask *McKender* if she can pick us up. Impossible.

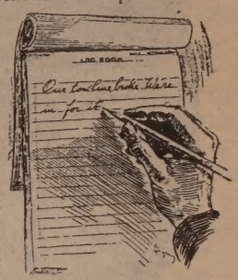
7:00 p.m. Gale force 10 blowing. It's a question if we can stand it.

9:30 p.m. Wind and sea furious. We are worse off than a barge.

12 mid. Gale at its height. A couple of seas shook the old tub till she trembled as with grief.

Aug. 14th. 2:00 a.m. *McKender* loses us. Goes over horizon. Our ship is riding it out pretty well. The crews are surely terrified.

4:00 a.m. I am all in. Sea continues. Ship lurches, but holds together.



5:00 a.m. Cap't says "She's a good ship and will ride it out."

5:30 a.m. Tried to catch a wink of sleep but impossible.

7:00 a.m. Still blowing about forty and sea is large. We take them green, over the top.

3:00 p.m. *McKender* is now abreast and endeavors to get close enough to shoot us a line but her Lyle gun refuses to work after two different complete turns around us.

4:00 p.m. We try our Lyle gun but it doesn't work. It's no fun lying in this sea with our only means of rescue, the Lyle guns, on both ships, failing.

5:00 p.m. We try to float a line to her and she tries same, but of no avail.

6:30 p.m. *McKender* captures one of our floating buoys but the strain is too heavy on the line and it parts. The crew is restless.

7:50 p.m. After several more attempts to float lines to one another, the *McKender* steams a mile away. Captain says he thinks it's best to wait until morning.

10:30 p.m. Have been up since 8 a.m. 13th—38 hours—and am all in, my second siege this trip.

Aug. 15th. 6:30 a.m. They are coming for us again.

8:00 a.m. Sea going down slightly. After yesterday's failure to float lines and the non-working of the Lyle guns, we put a boat over to get a line to the *McKender*.

11:00 a.m. Our boat got a line to the *McKender*. Happy

3:30 p.m. The *McKender* heaved on tow line before we had cut our anchor chain away. Almost tore our forward port bulwarks away.

Some trip. We cut the chain to save the bulwarks.

3:45 p.m. The *McKender* started ahead slowly.

3:50 p.m. Tow line parted again. Talk about disheartened! I feel sorry for our crew. I feel resigned, myself. Surely a heavy strain on this ship's company. The crew of both ships working in rain and wind to get line back on board.

7:00 p.m. The *McKender* reports her end in.

8:10 p.m. Our end up. Captains decide to wait till daylight. Our nerves are about strung to the limit.

11:10 p.m. Going to sleep.

Aug. 16th. 4:30 a.m. Sea very choppy but wind only about 4 force. Cannot launch a boat. We started a series of oil bbls. as floats. All morning it was lines parting here and there and lines getting caught. Getting rough again. We are pumping oil over the side to help smooth out the sea. A nerve-racking morning. The *McKender* opr. is oh so poor this morning. No doubt he's sick. I'm forced to send about 4 words a minute and we have msg after msg to get off. What a life. This cures me of wireless, if we ever get in safely. Never in my 11 years of radio have I had such a poor opr at the other end.

From RADIO BROADCAST, December 1922

1:50 p.m. The *McKender* Captain dared to come close on leeward side. He came astern of us and when ten feet astern, a sea took us to leeward and him to windward. I heard yelling, went out on deck and saw her. It looked like the end. She was about to plough through our stern, when a sea took her one way and us the other. Our Capt. said "She'll hit us sure." Everybody stood transfixed, but she passed to windward a scant two feet from our rail. Our chance to get a line to her, yea. Never had a better chance, but all were so frightened, they could not move. When finally one of our men came to, he heaved a twenty pound lead line. Lead got over to her, but the line was too short and before another line could be tied to its end, we lost it and the *McKender* had again eluded us. After that experience we knew we had faced death. Everybody was solemn as we watched her steam away, seemingly to recover.

2:00 p.m. *McKender* floats more bbls. and comes on our lee side (not quite so close this time).

2:50 p.m. We finally get a line from her and bend on a two-inch wire cable.

3:05 p.m. She is heaving in our two-inch wire, slowly, very slowly.

3:50 p.m. They are bending our two-inch wire on to their towing cable.

4:10 p.m. We commence heaving the tow line aboard, slowly. Everybody is helping, watching, hoping.

5:10 p.m. We have the towing line aboard and shackling on the chain.

5:18 p.m. Paying out our 60 fathoms of anchor chain which will be the complete tow line.

5:21 p.m. *McKender* going ahead slowly to take up slack.

5:40 p.m. *McKender* stopped.

5:55 p.m. Captain comes in radio room. Can see a look of haggardness all over his face. Still, he's smiling, and gives me msg for the *McKender* to go ahead slow.

6:05 p.m. *McKender* gives us congratulations, thanks God for everything, and starts pulling us, slowly. As we have used up every bit of line and gear aboard, and the *McKender* the same, our hope lies in the present cable. It consists of about 250 fathoms of 4½-inch steel cable, the same that parted in the storm. We have been adrift for 75 hours and the feeling is great to have some hope of reaching land again.

6:50 p.m. The crew are wondering whether or not she is going to hold. Three of them never were to sea before. It's telling on them.

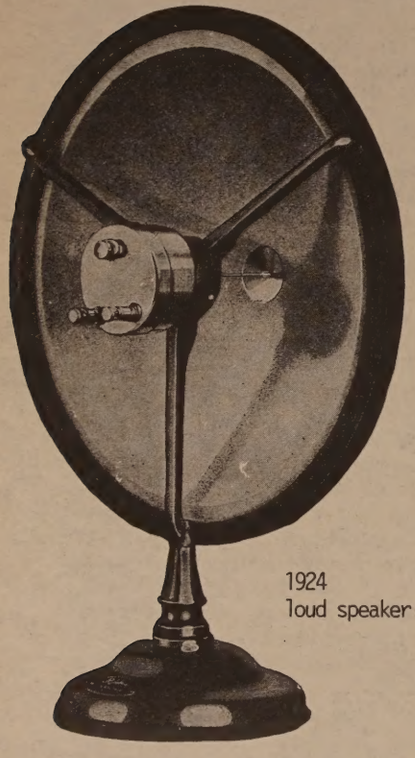
Aug. 18th. 8:30 a.m. We are still going ahead slowly.

7:25 p.m. Engineers have been working on shaft, have repaired same, and the engine is turning over slow. No one knows what a relief it is.

Aug. 19th. 8:50 a.m. Engine still running and we are making around five miles per hour.

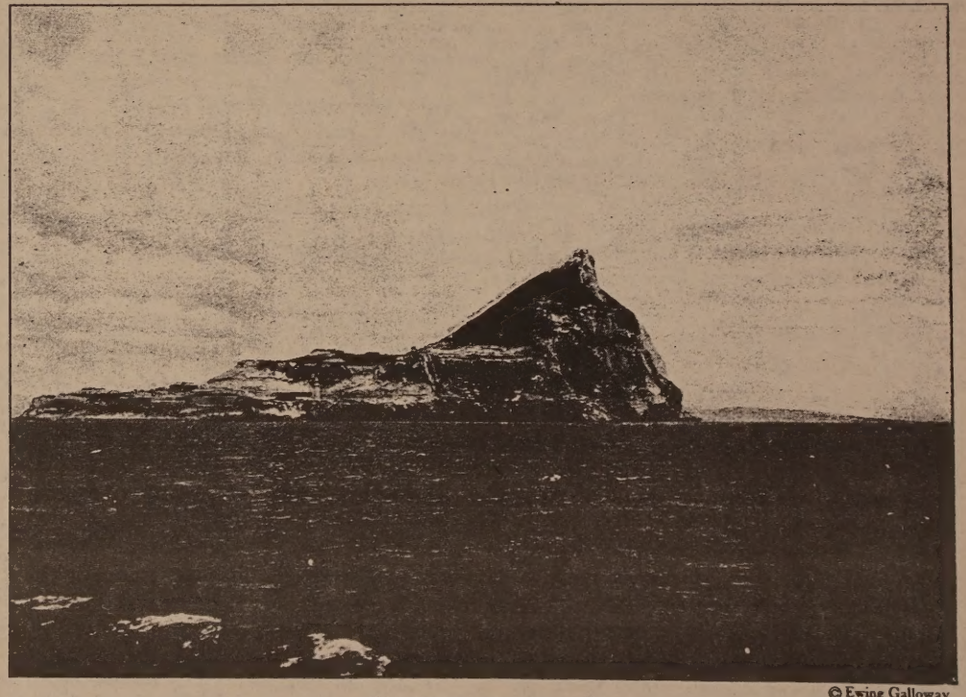
1:50 p.m. We are turning 34 revolutions. Our ship is quivering first time since July 24th when we broke down. Making good time.

Aug. 22nd. 3:25 p.m. Arrived Gibraltar.



1924
loud speaker

Pathé



"ARRIVED GIBRALTAR"

© Ewing Galloway

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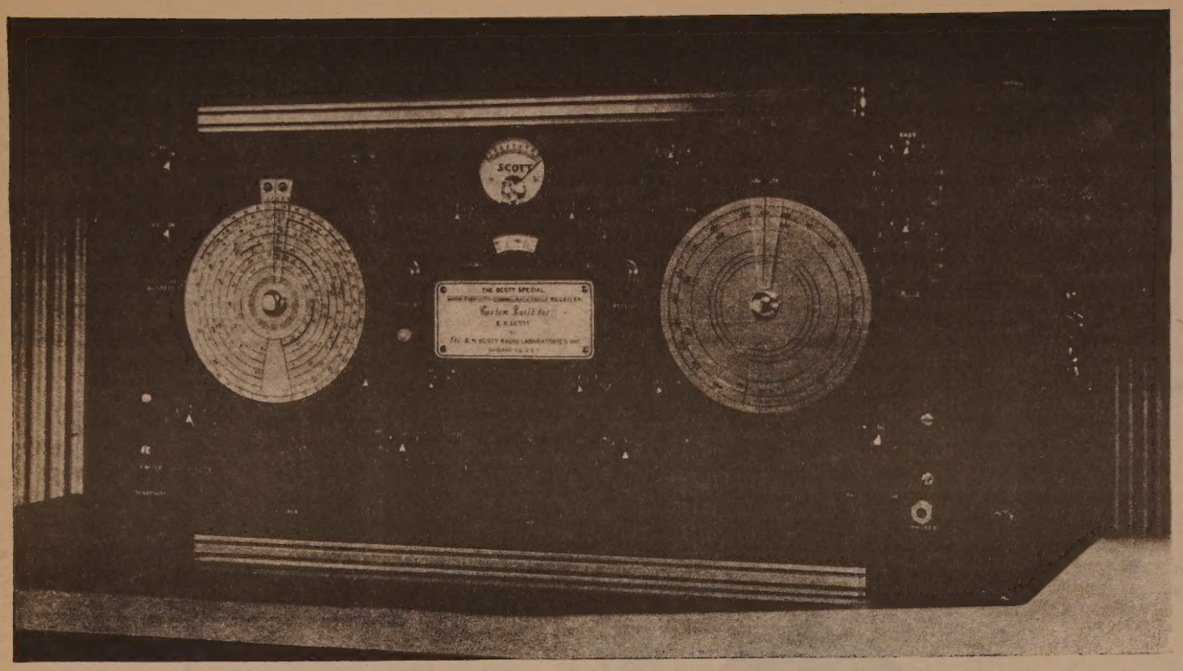


*The Dual Tuning Chassis of the Special High Fidelity Communications Receiver*

1941

# The Scott Communication Receiver

DURING the past twelve months we have received many requests for a professional type Communications receiver, and the Scott Special has been designed to meet these demands. It is a 26 tube receiver incorporating 22 separate controls, and while a genuine Scott in every respect it is not recommended for the average listener as it has been designed principally for the use of the professional radio engineer.

### Two Tuners in One Chassis

The Scott Special is not an ordinary Communications receiver. Actually, it is two receivers in one, for there are two tuners in the one chassis. One tuner is for the reception of shortwave stations from 60 to 1,500 Kc., while the other tuner covers the broadcast band and longwave frequencies from 1,680 to 140 Kc. In this way, it has been possible to combine *on one chassis* an extremely efficient high frequency receiver with one that efficiently covers the broadcast band and long waves.

This extended tuning range is covered with nine wave bands, seven for the ultra high and shortwave frequencies, and two bands for the long wave and broadcast frequencies.

CALIBRATION—Precisely calibrated on all wave bands with a micrometer scale above main dial so that each band may be set at exactly the same point. This feature also enables the operator to accurately log the main dial.

BAND SPREAD—Both mechanical and electrical band spread are used.

I. F. SELECTIVITY—Variable, providing varying degrees of Selectivity from 3 Kc. to 16 Kc. for 6 db attenuation.

CRYSTAL SELECTIVITY—Variable, high grade plug-in crystal unit, providing 6 degrees of extremely sharp Selectivity.

BEAT FREQUENCY OSCILLATOR — With variable pitch control for the reception of CW signals.

AUTOMATIC VOLUME CONTROL — With On and Off switch to cut out Automatic Volume Control when required for the reception of code signals.

ANTENNA COMPENSATOR—Provides maximum signal strength on ultra high and shortwave stations.

SENSITIVITY CONTROL — Variable, allows Sensitivity to be adjusted for maximum signal to noise ratio on all bands.

NOISE SILENCER—Dickert System.

STATIC SUPPRESSOR—Special circuit to reduce or eliminate certain types of high frequency static and noise.

SIGNAL STRENGTH INDICATOR — Meter calibrated both in db's and r's. The indicator pointer may be set on each wave band to cancel out noise, giving accurate indication of signal strength on any station received.

SEND-RECEIVE—Switch is provided connected to relay so that receiver may be instantly switched with push button control on receiver panel from receiving to sending position. If transmitter is used in connection with the receiver, relay can be wired to transmitter Off and On switch.

DIAL MECHANISM—Special Dial Mechanism with fly wheel spinner providing fast tuning speed with beautifully smooth tuning control. Back lash completely eliminated.

BASS AND TREBLE CONTROLS—Continuously variable to provide finest possible tone on all signals or programs received.

HEADPHONE JACK—Yes.

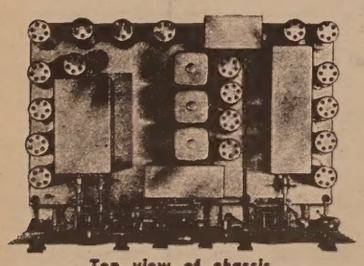
POWER OUTPUT—25 to 40 watts.

SPEAKER—Special 12" High Fidelity.

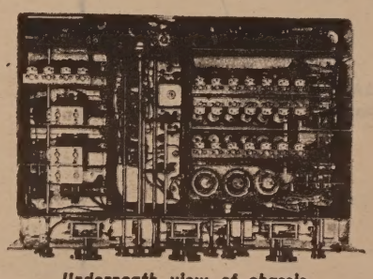
PRICE—$650.00 FOB Chicago.

DELIVERY—Four to six weeks after receipt of order.

TECHNICAL DESCRIPTION—Manual with circuit diagram, complete set of curves, and engineering specifications available for 50c.



*Top view of chassis*



*Underneath view of chassis*

in physical theory, either that the microphone should occupy no space or should allow the sound waves to pass through it exactly as they would do through empty air. The closest practical possibility is to make the microphone as small as possible, another item in favor of the dynamic type of instrument, since these probably can be made much smaller than now, although probably not so small as a carbon microphone. The Bell Telephone Laboratories recently have developed, however, an exceptionally small condenser microphone, the so-called "fountain pen microphone," which is said to be small enough to make its physical interference with the sound wave almost negligible.

Many other types of microphone are conceivable; some, perhaps, based on principles not hitherto tried, others as revivals and improvements of principles once tested and discarded. One of the latter is the hot-wire microphone, responding to the changes of air temperature created by the passing sound waves. Another is the liquid resistance microphone like one of the first successful ones of Alexander Graham Bell. The effect of sound waves on a high-voltage, glow-discharge maintained between two metal

## Restoring Antique Radios

by Durell M. Roth

THE OSCILLOSCOPE.

The oscilloscope (scope) is considered by many people to be a sophisticated instrument that is difficult to operate. Actually, from the operator's point of view, the scope is not difficult to use. It is simply a "video" voltmeter with features that allow you to critically examine a signal. A scope can be substituted for a voltmeter in almost every case and will give you a more complete analysis of the signal voltage than the traditional volt/ohm meter will. The operation of the instrument and the interpretation of results are also easily understood when approached systematically, as in this review.

The standard VOM provides a reading that represents the amplitude of ac or dc voltage, but the osciloscope traces a two dimensional "picture" (amplitude v's time) of the signal applied to its input terminals. The signal can be anything from dc voltage to a very high frequency ac voltage in the rf spectrum. The scope processes the input signal and displays a picture of that signal on its crt. The face of the crt has been divided with a vertical and horizontal grid called a graticule. Amplitude changes in the input signal are observed on the vertical scale and the time required to make those changes on the horizontal scale. The scope, in addition to making simple amplitude measurements, can also display a "magnified" picture of the input signal that allows you to measure frequency and inspect the signal for noise such as power supply ripple or hum.

** ON USING VINTAGE SCOPES **

Many of the frequencies in vintage radios requiring inspection with a scope are below 1 Mhz and most are within the audio range. It is not necessary, therefore, to have a modern scope with a wide frequency response for antique radio service. If you already have a military surplus or a commercially made scope from the late 1930's (or newer) it will

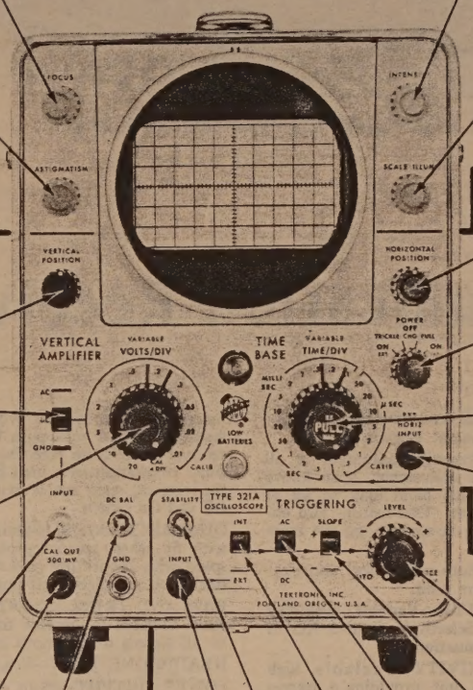
## CRT CONTROLS

FOCUS — Controls sharpness of spot or trace.

INTENSITY—Controls brightness of trace.

ASTIGMATISM—Used in conjunction with FOCUS to obtain overall focus.

SCALE ILLUM—Adjusts brightness of graticule markings (when operating from AC line).




## VERTICAL CONTROLS

VERTICAL POSITION — Positions trace vertically.

AC-DC-GND—Selects either AC or DC input coupling. The GND position connects the Vertical Amplifier to ground but does not ground the input signal.

VOLTS/DIV and VARIABLE — Selects vertical deflection factor and calibrator signal.

INPUT — Terminal for accepting waveforms to be displayed on crt.

CAL OUT 500 MV—Terminal provides 500-mv square wave for compensating probe.

DC BAL—Potentiometer for setting dc balance of Vertical Amplifier.

## HORIZONTAL CONTROLS

HORIZONTAL POSITION—Coarse-vernier type of control that positions trace horizontally.

POWER—Switch turns regulated 10-volt power on and off. Also, selects charging rate.

TIME/DIV and VARIABLE—Selects sweep rate and external horizontal input.

EXT HORIZ INPUT—Terminal for accepting external horizontal signal.

## TRIGGERING CONTROLS

LEVEL—Selects point on triggering signal at which sweep is triggered.

SLOPE—Determines whether sweep is triggered on + or — slope of triggering signal.

AC-DC—Selects AC or DC coupling for triggering signal.

INT-EXT—Selects either internal or external triggering signal.

STABILITY—Potentiometer for setting dc level of sweep generator.

INPUT—Terminal for accepting external triggering signal.

Fig. 1

probably be satisfactory for vintage equipment service.

** LEARNING TO USE YOUR SCOPE **

A good way to begin learning to use your scope is to read the owner's manual and become familar with the function of each control. All scopes have controls with similar names and functons, so if an owner's manual is not available, the following review will help you operate your instrment.

Figure 1 is a picture of a Tektronix model 321A scope. As in figure 1, the front panel of any scope can be divided in four categories: (1) crt controls, (2) vertical controls, (3) horizontal controls and (4) triggering controls. The crt controls basically affect picture quality and are analogous to the brightness, contrast focus, etc. on your television set.

The vertical section of the panel includes a VERTICAL POSITION control, a VOLTS/DIV and VARIABLE control and an AC-DC-GND switch. The POSITION control moves the display vertically to some convenient spot. The VOLTS/DIV control is similar to the 'range control' on your VOM and sets the voltage range or sensitivity for each major vertical division of the graticule. If the vertical sensitivity is set to 1.0 and there are ten major divisions on the vertical graticule, the maximum or full range voltage for that setting is ten volts. The VARIABLE control allows you to adjust the sensitivity to any level between those indicated on the VOLTS/DIV dial. Unless otherwise specified, this knob should always be kept in the CALIB poition.

The oscilloscope has another important advantage over the VOM especially when you are working with vintage equipment. If more voltage than allowed more a maximum setting is accidently applied to the scope, the display is simply deflected off the screen and no damage is done, unlike the bending of the indicating in a VOM.

The AC-DC-GND switch selects the type of input coupling for the scope. In the AC mode only ac signals can be observed. The DC mode, however, allows ac and dc signals to be measured. The GND position electrically removes all input signals from the instrument and internally grounds the input of the scope. This ground does not affect the input signal but allows the scope display to be set to a zero volt or ground position for reference.

The horizontal section of the panel includes a POSITION control and a TIME/DIV and VARIABLE control. The POSITION control moves the display horizontally and allows you to set a reference, usually at the left edge of the graticule. The TIME/DIV control sets the internal sweep rate (the time required to sweep the crt electron beam between major graticule divisions.) The VARIABLE control allows you to vary the sweep rate between each of the calibrated positions on the TIME/DIV dial. Unless otherwise specified, this control should be set to the CALIB. position. The slower sweep rates, 0.5 sec to 0.5 ms are used when working with low frequency audio signals. Sweep speeds above 0.5 ms are used for high audio and rf frequencies.

The trigger controls are used to obtain a stable crt display and are similar in function to the horizontal and vertical hold controls on your TV set. Except for the initial control settings, LEVEL is the only trigger control that may require periodic adjustment. This control selects the trigger mode for the scope and allows you to start or trigger the display at specific points on the input waveform. Operation of the LEVEL control is covered in detail later in this discussion.

Other front panel control are generally self-explanatory or are not needed in vintage equipment service and are not dicussed in this review.

** EXPERIMENTS WITH YOUR SCOPE **

In vintage radio work you will use your scope most frequently to measure dc voltage, check for unwanted ac or noise riding on the dc of B-plus lines, check for sinewave distortion in oscillator signals and checking for distortion in the modulation envelope of RF and IF amplifiers.

The following experiments will help you to become familar with the operation of each scope control and the interpretation of the crt display in the areas mentioned above.

** INITIAL SCOPE ADJUSTMENTS **

Set the scope controls as indicated in TABLE I and allow the scope to warm up for 15 to 30 minutes. Now adjust the HORIZONTAL POSITION control so that the trace begins on the left edge of the graticule. Using the VERTICAL POSITION control set the trace in the center of the screen and adjust the INTENSITY to a comfortable viewing level.

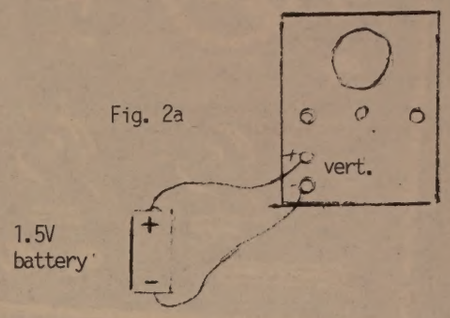
** DC MEASUREMENTS **

Connect a 1.5 volt battery to the scope as shown in figue 2a. Depending on the condition of the battery and accuracy of scope, the trace will move up approximately 1,5 divisions or the equivalent of 1,5 volts dc. Now reverse the polarity of the battery. The trace now moves down indicating a negative voltage of 1,5 volts dc. An important feature of the scope is its ability to display negative or positive voltages without changing a polarity switch or reversing test leads, as you would have to with a VOM. With the present control settings the maximum or full scale voltage is either plus three or mminus three volts. One volt for each major scale division. To measure other voltage levels simply set the vertical sensitivity to the position that provides the necessary full scale range.

When measuring dc voltage the setting of the TIME/DIV control is not important but is usually set to provide a trace that does not flicker. Sweep speeds of 2ms and above are considered satisfactory.

** POWER SUPPLY RIPPLE MEASUREMENTS **

All power supplies have some



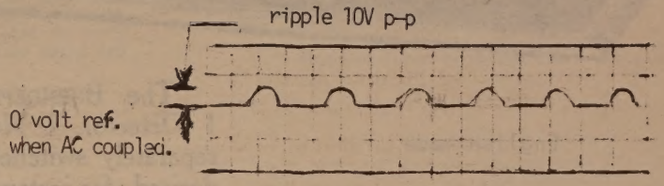
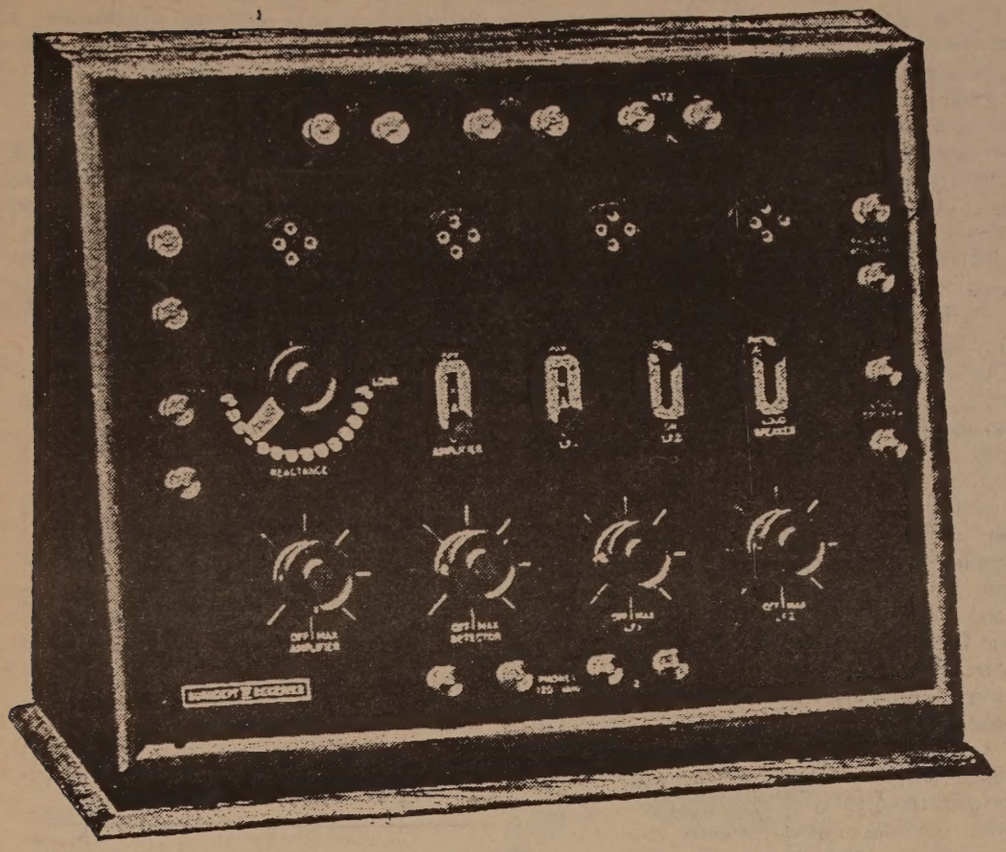




Fig. 2b

SCOPE AC COUPLED
20 volts/div.

TABLE I
Initial oscilloscope settings

| | |
|---|---|
| INTENSITY | Midrange |
| HORIZONTAL-POSITION | Midrange |
| POWER | ON EXT |
| VARIABLE-(TIME/DIV) | CALIB (2ms/div) |
| 5X MAG | Knob pushed in |
| TRIGGERING | |
| LEVEL | Full countermise (auto) |
| SLOPE | + |
| AC-DC | AC |
| INT-EXT | INT |
| VOLTS/DIV | 1.0 |
| VARIABLE (VOLTS/DIV) | CALIB |
| AC-DC-GND | DC |
| VERTICAL POSITION | MIDRANGE |



# The BURNDEPT

(Mark II)

# Ultra IV Receiver

1924

Size, 18½ × 15 in. high.

English made

**The BURNDEPT Ultra IV comprises 1 Radio-frequency Valve, 1 Detector, 1 Note Magnifier and 1 Power Valve. Each valve is separately switched so that any combination of valves can be used as desired; for instance, it is possible to use the Power Valve directly following the Detector when very close to a powerful station.**

amount of ripple on the output voltage if you have a power supply that is electronically regulated, the ripple will probably be as low as a few millivolts or even microvolts. In this case the ripple may be below the internal noise level of your scope and not measurable. If your supply is an unregulated type, however, the ripple may be as much as ten percent of the output voltage and very easily measured.

Ripple is a variation in the dc output of a power supply. It is essentially an ac voltage "riding" on the dc and is very easily measured with the scope in the AC mode.

Connect a power supply to your scope in place of the 1.5 volt battery. Next, set the vertical sensitivity to produce a trace deflection with your power supply voltage of about two divisions and turn the power supply on. Move the AC-DC-GND switch from DC to AC. The trace will drift to the center of the screen indicating that the dc voltage has been blocked and only ac voltag3e can be observed. In effect, your scope has become an ac volt meter with a vertical sensitivity as indicated on the VOLTS/DIV scale. In this mode, you can inspect a large value of dc voltage for a relative small value of superimposed unwanted ac voltage, such as power supply ripple or noise. With the dc blocked, ripple can now be measured as simple ac voltage. To check for excessive ripple, increase the vertical sensitivity to whatever level is necessary to obtain a stable display similar to that in figure 2b.

The amplitude of ripple or any ac voltage is measured as a peak-to-peak (p-p) value. Ripple is considered excessive when the p-p value exceeds 5% of the desired dc voltage. Figure 2b shows an excessive ripple of 10 volts p-p on a 150 volt dc supply.

Next month, I will discuss measuring ac voltages, frequency and distortion. Then I'll cover interpreting the modulation envelope as seen in RF and IF stages of your radio. I will show waveforms that are typical of malfunctioning amplifiers and offer possoble cures for the problems.

**Buzzer Test for Crystal Detector**

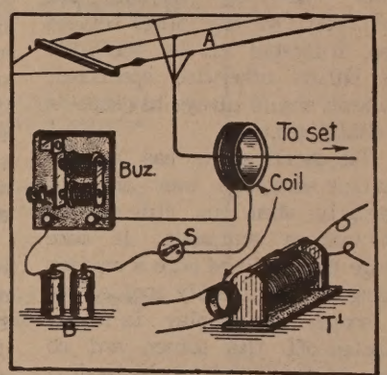
(4) John Hay, of Kansas City, asks:

Q. 1. I have heard that there are other methods of employing a buzzer for testing a crystal for sensitivity besides connecting the wire directly to the ground lead. Can you give me a circuit diagram for this method?

A. 1. There are several methods of doing this depending upon induced currents. One way is to wind several turns of wire around the aerial lead before connecting this to the buzzer; another method is to wind several turns of wire around a cardboard tube 2 or 3 inches in diameter and then pass the aerial lead either thru or around the cardboard tube or else permit this coil to approach the loose coupler or tuner so as to react upon it. The buzzer is placed in series with this coil.

Q. 2. Are there any advantages in using these methods?

A. 2. The advantages are slight, but users of this system claim that the sensitive spots so found on crystals are not apt to be lost or burnt and that more sensitive spots are generally found.




**In Case of Objections to the Use of the Buzzer for Testing a Crystal as Shown in Question No. 1, the System Indicated Above May Be Employed. Buz-Buzzer, T¹-Single Slide Tuner, S-Switch, B-Battery, A-Aerial.**

**Hook-Up**

(5) R. M. Gross, Maybell, Colo., requests a hook-up of a loose coupler, loading coil, variable condenser, 'phones and an audion detector for reception of undamped wave signals, and asks:

Q. 1. Will I be able to hear Arlington on this set.

A. 1. You may have considerable difficulty in receiving Arlington time signals on the west side of the Rocky Mountain range, but there are plenty of government stations transmitting time signals nearer your immediate vicinity than Arlington, which would come within your range. Hook-up is given herewith.

(Continued at bottom of page 8)

# AFTER-THOUGHTS ON SPEAKERS

Did you know as late as 1927 most radio manufacturers in this country favored separate speakers? The cone speakers of today, using the added power of 171 power tubes, operates so much better about ten feet away from the receiving set that the real radio fan will not buy a console with the speaker combined. The public likes the idea of having the speaker separate so that it can be carried from room to room. We do not now nor have we ever considered the built-in speaker successful. We have yet to hear a built-in speaker that equals an external one. We find them particularly weak in transmitting voice tones and will not stand the volume of the horn or cone. We find the public looking for tone quality above all and we do not think it can be obtained with built-in speakers. The average customer realizes that much better results are obtained with the speaker away from the set.

These are just a few comments that set manufacturers had to say about built-in speakers. We know that tubes presented a difficult problem in that era. Sound from the loudspeaker may vibrate a microphonic tube, resulting in uncontrolled feedback and producing howls and squeals in the loudspeaker. Tubes and elements were both large and vibration of loose elements in tube changes the characteristics and modulates the plate current. In effect the tube or tubes acts as a microphone. Electrically it is not always advisable to build the loudspeaker inside the cabinet.

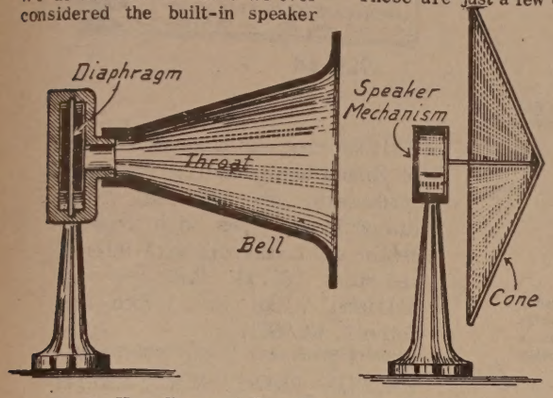
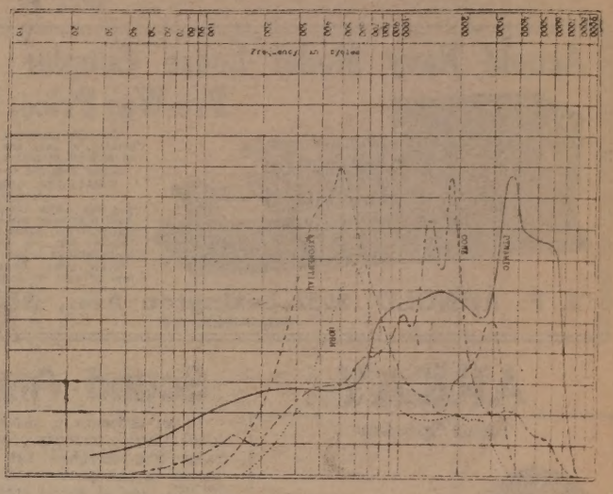



FIG. 1.– Horn Type and Cone Type of Loud Speaker.

Loudspeakers can be built into cabinets successfully and so shielded that no mecnanical or electrical couplings exist, the answers to this problem must be found in the results that we wish to produce from the standpoint of reproduction. The more we know about electro-accustics of the room in which the speaker is located, the more forcibly is brought to light the fact that the speaker must be portable, or at least capable of being located where it will give the best tonal reproduction. If the speaker is the open cone type, there is more uniform spread to the sound and a large circle of listeners will obtain more satisfactory and uniform results that can be expected when the speaker is built into the cabinet and has to operate through an opening in the side of the cabinet, thus having a pronounced directional effect. People located directly in front of such a speaker will receive a greater intensity of sound that those located at the side. The only reason why this effect is not more pronounced is the reflections from side walls, furniture, etc.

What the radio public will expect in the future from well-designed radio sets is a reproduction of speech and music that is as natural as listening to the original speech or music before the microphone of the distant station. One way to create this illusion is to have the loud speaker portable and so positioned in the room that it will give directly to the listeners of the same sensation that the original would give if present. Shades of our High-Fidelity speaker systems of today.

BY WILLIAM E. HEMBRICK
Route 1, Box 93A
Terra Alta,
West Virginia 26764



Response Curves of Various Types of Speakers.

# The Classic Radio

"CUSTOM BUILT FOR E.H. SCOTT"

By J.W.F. Puett

Receiving a number of requests for a "professional type communicattions receiver," E. H. Scott, who built radios during the old days that connote the ultimate in electronic achievements and cabinet styles, soon found himself at the proverbial drawing board. This would be one of the last and greatest of his ingenious designs -- perhaps the most elaborate communications receiver the world had ever seen. The circuitry of his Scott Philharmonic radio would be the basis for his design.

In 1941, the Scott Special High-Fidelity Communications receiver was announced in the Scott News. Selling price? -- $650.00 F.O.B. Chicago.

Two tuner circuits were incorporated on the same chassis, one for the seven short wave bands (1.7 to 64 MHz) and the other for the two lower ranges (1710 to 520 KHz and 395 to 140 KHz). Each tuner utilized two rf amplifier stages with a separate mixer and local oscillator. The alignment procedure requires 94 different adjustments. There were three I.F. amplifier stages. In addition to a diode type noise limiter, a Scott scratch suppressor circuit was provided to improve the signal-to-noise ratio on weak signals with respect to high frequency hiss and static.

E. H. Scott spent many happy hours with his own Special. He maintained a listening station in his upstairs den. His antenna system consisted of two Scott super double doublett Antannas, one being positioned from North to South and the other from East to West. Switching was provided to select the desired antenna; however, "about 90% of the time the antenna facing North and South gave the best signal."

With separate tuners for standard broadcast and short wave, Mr. Scott reported in a 1941 issue of the Scott News, "I can have two stations tuned in on the Special at the same time, one on the short waves, another on the broadcast band, and by a flick of the switch marked "Wavechange" and without touching any other control, I can bring in either station instantly." "It is extremely interesting, when one of the local stations is rebroadcasting war news from Europe, to switch over and receive the same program from the European station, then by throwing the control switch, make an instant comparison between recep- direct from Europe and the same program being rebroadcast from the local station.

No one seems to know how many Scott Specials were built. The general consensus of opinion is that they were never manufactured in the same way that Scott home-entertainment sets were. Some broadcast stations used this set to monitor foreign newscasts during World War II. It is quite possible that a few Specials are still floating around in the archives of "obsolete" equipment at some of the older broadcast stations.

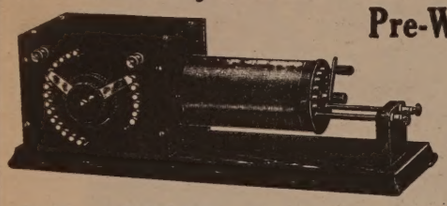
This receiver consists of a large black crackle-finish metal cabinet which houses the chrome-plated tuner

chassis. The chrome-plated amplifier chassis and the wide-range 12-inch speaker are housed in separate black crackle-finish metal cabinets. A nameplate in the center of the tuner front panel of each Scott Special was inscribed - "CUSTOM BUILT FOR _____" with the name of the customer. Only four Scott Specials are known to exist in collections in the United States. The nameplate on one of these is inscribed "CUSTOM BUILT FOR E. H. SCOTT." This set may very well have belonged to Mr. Scott himself, and it is probably the same one shown in the Scott News and Scott sales brochures of that period.

While most communications receivers are "notoriously deficient in tonal quality, the Scott Special circuitry included a 25-watt R.M.S. high-fidelity audio amplifier. An optional 40-watt amplifier was available. Separate bass and treble controls allowed the operator to vary the tonal response from high-fidelity performance to levels more desirable for communications reception.

1921 ad

## Arnold Navy Model Loose Coupler Back to Pre-War Price, $15.00

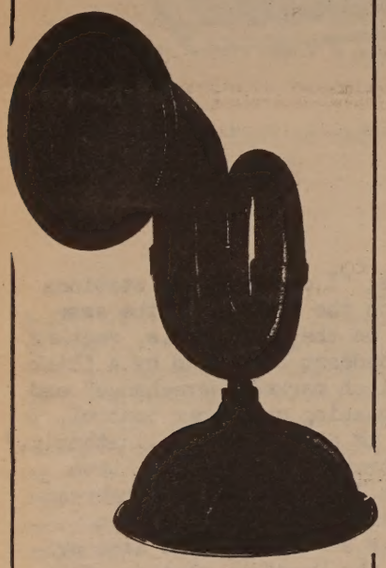


The most consistent piece of Radio Apparatus to hear the Wireless Telephone on without distortion.
Range from 200 to 3000 Meters.
AMATEURS, COMMERCIAL AND ARLINGTON
use this Loose Coupler and the Arnold Audion Detector which sells complete with Batteries and Bulbs for $30 if you want results. But you must buy from the manufacturers to get these prices.
Order today. Prompt shipment promised or send 3c stamp for Catalogue.

J. F. ARNOLD, 2082 Lexington Ave., NEW YORK
ESTABLISHED 1910

## ARKAY Sound Amplifier

Loud Speaker



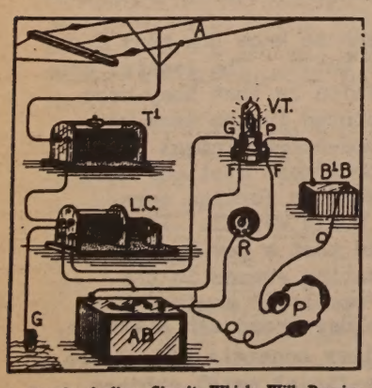
*Radio News for January, 1922*

In an endeavor to produce a low priced loud talker, a manufacturer of radio apparatus has designed the sound amplifier shown in the photograph. The advantage of this type of sound amplifier is that any make of telephone receiver may be used in connection with it. The telephone receiver is merely mounted in the base with a screw applying it against a rubber ring, preventing any loss of sound. The screws are furnished with this instrument so that flat receivers may be used as well as amplifying types, which, of course, give best results. A notch in the base is provided for the cord of the phone, which may be simply taken out of a head set and replaced when desired.

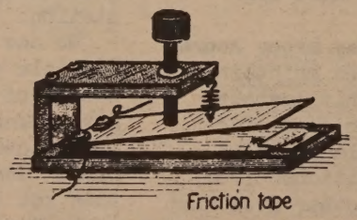
**To This Horn May be Attached Any Type of Telephone Receiver. It Gives a Great Sound Amplification When a Good Phone is Used in Conjunction With it and With an Amplifier Makes Signals That Are Readable Over a Large Area.**

The complete instrument is made of brass and is either coated with black enamel, or nickel plated. Its shape gives to this sound amplifier very good amplifying properties and compared with another well-known apparatus, has proved to be equally efficient when a Baldwin receiver was inserted in the base. Of course, an amplifier is needed in connection with the receiving set in order to have a sufficient volume of sound produced by the telephone receiver, but for strong signals the instrument may be used with a detector tube only.

Sold for $5.00 in 1922 by Riley-Klotz Mfg. Co.




A Simple Audion Circuit Which Will Receive Damped Waves. T1-Single Slide Tuner, L.C.-Loose Coupler, V.T.-Vacuum Tube, B-B.-"B" Battery, H.B.-Six Volt Storage Battery. R-Rheostat, P-Phones, A-Aerial, G-Ground.




**The Construction of the Variable Condenser is Shown Above. It is Advisable That Every Amateur Construct One or More of These Condensers as They Can Always Be Used.**

*Science and Invention for April*, 1922

**VRPS/AWA CONVENTION '88**
October 21-21, 1988, Duncanville, Texas. Swapfest, Auction, Museum tour, equipment contest, Banquet Awards. For more info write: VRPS, P. O. Box 165345, Irving, TX 75016.

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AD SPACE:
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Quarter page ...$12.50

Business size
card ads ..... $1.00
Space per square
inch ..... $0.60

CLASSIFIED ARE FREE
UP TO 100 WORDS. Additional words are 5 cents each.

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**"ULTRADYNE L-3" Complete.**
**"ULTRAVERNIER" Dials (6).**
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**B-T 8-28 Ganged Cond,**
**LACAULT's LR-4 Book.**
**THORDARSON Pwr. Compact.**
**RAD. INSTR. RF XFRM.(3)**
**ELECTRAD "Truvolt" Pots.**
**Matching Shield Cans. (6)**
**Copies of Original Kit Construction Prints.**

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**Everything In Working Order, Please.**

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**D.H.MOORE**
**P.O.Box 521, Palo Alto,**
**Cal.-94302(415)322-2728**

Beyond Rider!

A GENTLE WARNING.....

They say that imitation is the sincerest form of flattery, but direct plagiarism is another bag of beans. It has come to our attention that a couple of people have been copying material from the unique literature known as *THE VINTAGE RADIO IDENTIFICATION SKETCH-BOOKS of D.H.MOORE* - and actually selling the material !!! All material in the *SKETCH-BOOKS* is duly protected under international copyright laws, and litigation is forthcoming. Share the knowledge, by all means, for that is what a fraternal hobby is all about, but let's not steal it for private gain.

*The Editorial Group, Ltd...*

P O BOX 521 • PALO ALTO, CALIFORNIA

**********

FOR SALE: ANTIQUE (1924 VINTAGE) ATWATER KENT BREADBOARD MODEL 10A IN ALMOST MINT CONDITION, WITH FIVE GOOD UX201A'S INCLUDING MODEL M HORN SPEAKER. WARRANTY AND INSPECTION TAGS ARE OK. $700.00 PLUS SHIPPING AND PACKING. PREFER NOT TO SHIP. WILL CONSIDER SELLING SET OR SPEAKER SEPARATELY. LEO GIBBS, W8BHT, 701 BROOKFIELD ROAD, KETTERING OH 45429. (513) 299-3965.

**********

NATIONAL HRO. OLDER PIN TYPE TUBES. Rack mount. With six coil set (not continuous). Fair shape. $95; RME 69, rack mount (no cabinet; fair/good $95; Two meter composite AM transceiver. Works! $15; One WE 101D tube. Good filament. $20.* Paul C. Crum, W9LC, 6272 N. Cicero Avenue, Chicago, IL 60646. (312) 282-3033.

**********

FOR SALE- New and used tubes, capacitors, cone speakers, have over 500 different types of tubes— used from 40 cents, new from 95 cents. Send SASE for lists, C. Elmer Nelson, 11 S. Church Street, Princeton, IL 61356.

**********

DANCING LADIES SPEAKER, Stewart Warner model 305, Stewart Warner speaker, American Bosch model 360, Silvertone model 1386, Philco 66, Clarion Jr. 320 superhetrodyne, small mirror tone deluxe," ivory colored radio with red knobs, case only for a Kennedy cathedral. Send for new list. Clifforf Schoen, 549 Fulton St., Seymour, WI 54165. Phone (414) 833-2429.

**********

FOR SALE: RADIOLA MODEL II 225.00, 11 pr. Newcomb headsets 2.00 pr., Junker Magnavox TRF model D 15.00, 1930's Zenith junker tombstone 10.00, model 3970 Philco battery tombstone 15.00, UZ-1325 horn only 10.00, table model 1950's Admiral electric radio with phonograph 10.00, model 10728A Philco Transitone 10.00, late 20's American Bosch electric set with 8 tubes 50.00, 1950's Studebaker car radio 20.00, 1940's Zenith push button electric radio (plays) 25.00, U.P.S. extra, Larry Chambers, 5026 Suter Drive, Nashville, TN 37211, AC (615) 833-2448.

**********

FREE- JUST RELEASED— FLYER NO. 188B (blue cover). To insure reponse to your request, send 2 stamp LSASE to: Olde Tyme Radio Company, 2445 Lyttonsville Road, Silver Spring, MD 20910

**********

MANY THOUSANDS OF OLD TUBES. LARGE 80, 81, 82, 83 BOXES OF WESTERN ELECTRICS RECEIVING AND TRANSMITTING TUBES, PEANUT TUBES, METAL TUBES, E. H. SCOTT TUBES, BOXES OF LOCTALS AND OCTALS. IV TUBES. ALSO FIRST EDITION RIDERS SUBSTITUTION GUIDE BOOK. ONLY SELLING ALL U PICK UP. TUNGAR BULBS. TO: BASIL ABBOTT, #4 BUNKER HILL, RICHARDSON, TX 75080.

**********

FOR SALE: to receive America's best list of radios, tvs, mags, etc.. send $1.50 for current list to: Jim Clark Enterprises, Dept.,HS, 1292 Starboard, Okemos, MI 48864.

**********

FOR SALE. MUST SELL MOST OF MY HOBBY: RADIOS, CONSOLES, TEST EQUIPMENT, AMATEUR RADIO RECEIVERS, TRANSMITTERS, PARTS, TUBES AND MAGAZINES. PLEASE TELL ME WHAT YOU WANT— CAN SEND LIST OF YOUR REQUEST FOR SASE. R. W. OLMSTED, K4UUZ, 608 W. THOMPSON LANE, MURFREESBORO, TN 37129. (615) 893-5344.

**********

RIDERS, HOWARD SAMS, RCA, PHILCO, SERVICE DATA. TEST EQPT., PARTS, TUBES, NEW 1988 LIST. SASE. KRANTZ, 100 OSAGE AVE., SOMERDALE, NJ 08083.

**********

SEND LARGE SASE for list of radios., Donald Juleen, 6252 Ledge Road, Sturgeon Bay, WI 54235.

**********

**********

FOR SALE — PHILCO

**********

PHILCO 95TH ANNIVERSARY limited edition cathedral radio, AM/FM transistor chassis, look a like to Philco model 90 - 1932- collector's item, only $89.91 plus $5.00 shipping. Maurer TV, 29 South 4th Street, Lebanon, PA 17042.

**********

**********

FOR SALE — TUBES, PARTS, ETC.

**********

FOR SALE: NEW IN ORIGINAL BOX, 215-A WESTINGHOUSE $30.00. ONE BRASSBASE UV-201-A TUBE EX. CONDITION POST PAID. $20.00 NO TIP USED. CLEON BOOTHE, BOX 235, COHOCTON, NY 14826.

**********

LARGE STOCK OF TUBES FOR TV AND RADIOS 1940'S UP. NEW IN ORIGINAL BOXES. ALSO HAVE SOME TRANSMITTER TUBES. SASE FOR LIST. R. OLMSTED, 605 W. THOMPSON LANE, MURFREESBORO TN 37130. (615) 893-5344.

**********

FOR SALE; UNUSED AND USED TUBES, cone speakers, electrolytic capacitors, phono cartridges and needles, send SASE for lists. C. Elmer Nelson, 11 S. Church Street, Princeton, Il 61356.

**********

**********

TELEVISIONS

**********

RCA TV Model 8PT7010 in red metal case in working condition. Included second set same model for parts. Make offer. John Schellkopf, 1344 Goucher Street, Pacific Palisades, CA 90272.

**********

**********

FOR SALE — ZENITH

**********

THE CABINET IS IN MINT CONDITION and the radio plays. It is a Zenith 12 tube superhetrodyne with a tuning range 540-18400 kyc., chassis 1204-A. Marshall T. Bond, 8718 Linkfair lane, Houston, TX 77025. (713) 668-0029.

**********

FOR SALE: 1940'S VINTAGE ZENITH CONSOLE radio and phonograph. Cabinet is in excellent condition. $250.00 — Call (815) 838-5398. 5 p.m. to 10 p.m. c.s.t. Dick Stauss, Rt. 1 Box 399, Lockport, IL 60441.

**********

WANTED — EDISON

WANTED FOR EDISON STANDARD phono— model B. 1.) mainspring 2.) decals-trademark and "Edison, 3.) cabinet lid 4.) A. K. breadboard in

excellent condition. Carl Hickey, 27404 N. Highway 1, Fort Bragg, CA 95437. (707) 964-0505.

---

WANTED — GENERAL

---

OLD BROADCAST OPERATOR IN ARIZONA INTERESTED IN OLD RADIO MEMORABILIA; PAPERS, OLD TUBES, NOVELTIES, SMALL RADIOS, AND COMPONENTS OF THE TWENTIES AND THIRTIES. HAVE RADIOLA 25 WITH LOOP, 6A40 ZENITH WAVEMAGNET, PHILCO 32V FARM RADIO, R.C.A. NAVY SHIP RECEIVER, EICO 950 RC BRIDGE, GERMAN RADIOS, WILCOX GAY TAPE AND RECORD PLAYER, BC 348 RECEIVER, SYLVANIA METAL TUBE CABINET, SYLVANIA JACKET, TUBES, CHOKES, METERS, TRANSMITTER COLLINS 32V3, EICO 720, W.E. INTERCOM AND A FEW W.E. TUBES, GONSET COMMUNICATOR IV, GRAY AUDOGRAPH, STENTYPE MACHINE AND QUACK MEDICAL MACHINES. LIKE TO HEAR FROM COLLECTORS... WAYNE FERNYHOUGH, 1632 W. ROVEY AVENUE, PHOENIX, AZ 85015.

---

GLASS TUNING DIAL FOR MOTOROLA 5T, ZENITH TOMBSTONE, (AKA WALTON'S RADIO), PHILCO 16B, 90, 70 AND ANY OTHER CATHEDRALS OR TOMBSTONES. MIKE BUKOWSKI, 926 CROWNRIDGE DRIVE, COLORADO SPRINGS, CO 80904

---

WANTED. BROWN BAKELITE KNOB and 199 tube socket from Steinite model 990 seris radios. Ed Clerkin, 1305 San Marcos Ct., San Luis Obispo, CA 93401. (805) 544-3088.

---

WANTED: A WIRE RECORDER for playing 3 3/4" spools of recording wire. Used navy equipment. Russell Starkey, 855 Eisenhower Avenue, Jasper, IN 47546. Phone (812) 482-1016.

---

SIDE TUNING KNOB FOR BELMONT 6D111, manual and schematic for measurements model 80 and Heathkit LG-1 signal generators, RIDERS vols. 16-23, and SAMS 1-700. Looking for a book by the title of "Case Histories of Receiver Troubles and their Remedies," published by Rinehart Books in addition to a hard-cover copy of Tyne's "The Saga of the Vacuum Tube." Am also interested in contacting other collectors in Columbus, Ohio area. Brett Gundlach, 276 E. COMO AVE., COLUMBUS, OHIO 43202, HOME 614) 267-0346, WORK (614) 888-9502.

---

RADIOLA 28 with 104 speaker, Radiola 25, Radiola 20, Norden Hauck

---

RADIOLA 28 with 104 speaker, Radiola 25, Radiola 20, Norden Hauck Superhet, Leutz Superhet, Pilot Super Wasp, Pilot parts, Crosley parts, Atwater Kent parts and AK breadboard parts, RCA UZ-1320 horn, Radiola RS, Zenith Super VII or VIII, crystal sets, Burns horn, Emmett A. Smith, 2714 Alden Road, Baltimore, MD 21234.

---

WANTED— CABINETS FOR RADIOLA X, AND FEDERAL 59, DISPLAY SODION TUBE, UNUSUAL HAND KEYS, INFORMATION ON HALLECK-WATSON COMPANY OF PORTLAND, OREGON. PAT STEWART, W7GVC, 1404 RUTH AVE., WALLA WALLA, WA 99362.

---

WANTED: ZENITH 11 OR 12 BAND "TRANS-OCEANIC" TRANSISTOR, TOSHIBA "GLOBE-TROTTER," SONY "ORBITER" RECEIVERS OR PARTS, ALSO KLH-21 FM ONLY RADIO. BILL WADE, 657 14TH AVENUE, PROSPECT PARK, PA 19076.

---

WANTED: ENTIRE WORKS for Capehart 500K, also Edison C-1, C-2, Balmoral and Alva, Victor 10-51A, Tom Grattelo, 2818 Central, Alameda, CA 94501.

---

PEERLESS MODEL 19AR-60 9" DYNAMIC speaker with cabinet in good working condition. H-P model 410C VTVM working. RCA Victor R-35 radio in excellent working condition. Simpson model 1699 milliohmmeter in working condition. Radiola 20 chassis with good audios. Audio transformer for RCA Victor R15 or RCA Radiola 48. Radio Broadcast magazines for 1922 and 1928. Early Canadian Radio magazines such as Canadian Wireless, Radio, etc. Radio News for July, August and October 1919. October 1921, January 1922, August and September 1924. Top prices for good condition magazines. R. A. McNeill, P. O. Box 472, Yorkton, Sask., Canada S3N 2W4 (306) 783-6121.

---

WANTED: DECANTER BOTTLES, ice bucket, shot and drinking glasses for model 9008-B Porto-Baradio made by Stewart Warner. Clarence MCGinnis, 1507 N. Glenn Street, Morristown, TN 37814.

---

WANTED: OWNERS OF EARLY ELECTRICAL magazines, MODERN ELECTRICS, ELECTRICIAN & MECHANIC, etc. I will pay for good photocopies of articles on spark gaps, high frequency Tesla & Oudin coil projects, etc. Need information for forthcoming bibliography. Write


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P. O. Box 997
Mercer Island, WA 98040

**The big annual ARS Sale is here again. Take advantage of these great deals while they last. All items subject to prior sale. Sale ends with the next edition of The Horn Speaker, so act now!**

[]-**SPECIALTY INDEX:** Contains indexes to ARS' Specialty Servicing Manuals. Covers the period 1926-1950. Regularly $7. Now just $4 for a limited time. SI-1

**SUPREME RADIO VOLUMES:** 1941, 1942, 1946 just $10 each, a savings of $7 from the regular $17 price. Or order all three for just $25 and save more!
[]-**1941** $10 []-**1942** $10 []-**1946** $10 []-**All 3** $25

[]-**PRACTICAL RADIO MATHEMATICS:** Explains electronic terms and concepts: Ohm's law, current, wattage, series and parallel circuits, capacitance and inductance. Useful formulas too. Regular price is $4. Price slashed for sale to just $1. GA-3

**SUPREME TV VOLUMES:** [] **TV-17** (1960) and [] **TV-20** (1962 Late) normally $4 each now just $3 each.

[]-**TEN POUNDS OF ELECTRONIC DATA:** fact sheets, technical publications, diagrams, instructions, catalogs, magazines. Regularly $8.95, just $6.95 here. SD-1b

NAME_____ TOTAL FOR BOOKS ORDERED..$_____
ADDRESS_____ 8.1% Tax (WA State only). _____
CITY_____ Shipping and handling*... 2.50
STATE_____ ZIP_____ **TOTAL ENCLOSED**.....$_____
*Foreign orders must add actual shipping costs

[]-**CHECK** []-**MONEY ORDER** ACCOUNT # _____
[]-**VISA** []-**MASTERCARD** EXP. DATE_____ HS488

[]-**FREE CATALOG** SIGNATURE_____

**********
* FREE -- SEND 2-STAMP LSASE FOR *
* FREE FLYER NO. 188B (BLUE COVER) *
* TO: OLDE TYME RADIO COMPANY, *
* SILVER SPRING, MD 20910. *
**********

first to TCBA, RD3 Box 181, Glens Falls, NY 12801.

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WANTED: WWII MILITARY Iconoscope TV camera or tube alone. OK if converted to amateur use. Canadian Marconiphone III regen., IV neutragenaflex, VI, VIIA, VIII, IX, XI. Canadian Westinghouse model W55, W55A, W60A, W57. Hammarlund Trans-Oceanic "Two", De Luxe, Hawk. Kresge Z4 Commander, Karas Short Wave Receiver. D'Arcy Brownrigg, P.O. Box 292, Chelsea, Quebec, JOX 1NO, Canada.

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WANTED: A. K. MODEL 55, need everything to mate with gear on tuning condenser. Could also use but not so critical speaker or cone for above. Floor cabinet model, need ivory knob, prefer function for FADA mdl. 790. Will buy junk A.K. if it has at least the tuning parts. C. England, 98 Montague, So. Zanesville, OH 43701.

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WANTED: COVER FOR A.K. 55 tin box. Also, 4 tube covers for Advance Neutrowound. Will buy junk set. Jerome Schliepp, 831 Old Berlin Road, Rippon, WI 54971.

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C-4 TUBE. for Columbia radio model C-80A. SPRING AND PLATE for A.K. speaker model M. Russ Schoen, E 7340 Nietkze Road, Clintonville, WI 54929. (715) 823-6744.

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I BUY BATTERY RADIOS and horns from the 20's, if you have one to sell, send me a card with name, model and price. Rick Parrish, 1260 marilyn Drive, Cape Gir., MO 63701.

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WANTED: ZENITH OCEANIC 7000, TOSHIBA- GLOBAL, GRUNDIG SATELLITE OR SONY "ORBITER" BATTERY MULTIBAND SET, WADE, 657 14TH AVENUE, PROSPECT PARK, PA 19076.

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WANTED: ONE VERY NICE RADIOLA 100 A LOUD SPEAKER, PLEASE WRITE: PAUL O'PATIK, 316 RUTHERFORD AVENUE, FRANKLIN, NJ 07416.

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DO YOU HAVE THAT CLASSICAL 78 ALBUM that has a damaged or missing record? I have an "album singles for sale" listing that I will send to anyone for a 25 cent long self-addressed stamped envelope. Anton Johannes, R.D. #3 Box 253, Pine Bush, NY 12566.

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WANTED. I BUY RADIO TV collections. Please send description and price desired. John Kendall, P. O. Box 436, Fallston, MD 21047.

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WANTED— SCHEMATIC, ETC. ON BLUE RIBBON AND REMINGTON 5 TUBE RADIOS, OR OTHER RADIOS LIKE THE ABOVE. WANT TO GET THEM WORKING WITH ORIGINAL PARTS. W. G. WEAMER, 390 E. FOSTER ROAD, SANTA MARIA, CA 93455.

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WANTED "TENSOR ANALYSIS OF NETWORKS" by Kron; Briggs and Stratton crystal set; accessories for "smokerette" radio. Forrest Baker, 1558 W. Garfield, Davenport, IA 52804.

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WANTED — HAMMARLUND

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HAMMARLUND CONDENSERS, MC-100, MC50, MCD-35FX, NORMAN CRANE, KF7AS, P.O. BOX 12564, TUCSON, AZ 85732. 749-9140.

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WANTED — HEADPHONES

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WANTED: NONWORKING OR WORKING headphones: Mesco, Kennedy, Eisemann, Sampson, Kilbourne Clark, Kellog, Brownies, earliest Brandes with steel headband. Vernon Kostohryz, 600 Lakeside 3A, Brownsville, TX (512) 541-5692.

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WANTED — LEUTZ

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WANTED FOR LEUTZ MODEL "C" super-het.: 2 Weston No. 301 voltmeter 0 - 10 volts DC. 2 Weston no. 301 ammeter 0-5 amps. DC. 4 General Radio type 231 A audio transformer. 6 special Leutz I.F. transformers. 1 special E.I.S. (Leutz) oscillator coil. 1 special E.I.S. (Leutz) R.F. coupler coil. John A. Rawlins, Jr., 1920 Stephenson Drive, Mesquite, TX 75149. (214) 285-2313.

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WANTED — LITERATURE

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WANTED: SCHEMATIC TEL-SWEEP GENERATOR. MODEL TSW-50-1948 VISION LABS, JOHN G. MC DADE, 204 E. JOPPA ROAD, #214, TOWSON. MD 21204.

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EVERY DAY MECHANICS, VOL. I, NO. 4, MAY 1916 OR A COPY OF "HOW TO BUILD A TRANS- ATLANTIC WIRELESS RECEIVING SET. K. A. LADD, 5240 44TH AVE. S., MPLS., MN 55417. (612) 722-6786.

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LAFAYETTE RADIO CATALOGS - 1960 THRU 1968, PLEASE STATE CONDITION AND PRICE. MR. MICHAEL S. SABODISH, SR., 11 - A MATAWAN AVENUE, CLIFFWOOD, NEW JERSEY 07721.

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WANTED: OPERATING MANUAL and tube data sheets for Jackson Dynamic tube tester model 636. Zerox copy O.K. Frank Hoffert, 19605 Chardon Road, Cleveland, OH 44117.

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WANTED - INFORMATION AND SCHEMATIC for Blaupunkt Sultan 3D radio. Model number unknown, 5 tube AM/FM/SW. Write Ray Carifio, N4LTS, 6014 SW 33rd Street, Miami, FL 33155

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WANTED: LIBRARY BOUND volumes of QST, CQ, 73 PRE 1960. ALSO GLOBE SCOUT (WRL), MIKE GRIMES, K5MLG, 3805 APPOMATTOX CIRCLE, PLANO, TX 75023.

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WANTED: SCHEMATIC FOR SILVERTONE MODEL 7166. TOM JOHNSON, 215 E. 7TH STREET, AMES, IA 50010.

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WANTED: SCHEMATIC AND INFO on Eico ST 70 amplifier. Gordon Wilson, 11108 - 50 Avenue, Edmonton, Alberta, Canada T6H 0H9.

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WANTED: INSTRUCTIONS FOR PACO MODEL 25 IN-CIRCUIT CAPACITOR TESTER RCA WR-50A SIGNAL GENERATOR CRYSTALINER (CRYSTAL MODULES) GENERATOR, GLENN HARTMAN, 5545 DEEP HOLLOW, FAYETTEVILLE, NC 28311.

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WANTED — PARTS, TUBES, ETC.

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ZENITH DETECTOR COIL NO. S-8436 USED IN CH, 10A1, 10A2, 10B1, 10B2. ATWATER KENT MODEL 60 A.F. TRANSFORMER ASSEMBLY. L49B BALLAST TUBE. 45 RPM SPINDLE FOR B5R C129 CHANGER EV/GAME 436. CABINET FOR PILOT TV 37. 3KP4 CRT. ELECTRONICS MEASUREMENT CORPORATION. MODEL 502 SIGNAL GENERATOR, ASSEMBLY MANUAL OR SCHEMATIC. AUDIO INPUT XFMRS FOR SINGLE PLATE TO P-P GRIDS. ANY JUNKBOX PARTS, LITERATURE. ANY EARLY TWO AND THREE PIECE CAR RADIOS, UNITED MOTORS, B.O.P., ETC. ANY OTHER FACTORY CAR RADIOS FROM 30'S - 40'S. ANY SIGNAL SEEKING TYPE CAR RADIOS, MUST HAVE KNOBS. CAR RADIO KNOBS. — ALVIN HECKARD, RD1, BOX 83, LEWISTOWN, PA 17044.

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EARLY OR UNUSUAL TUBES, tube cans, cartons also early light bulbs pre 1900. Please describe with prices wanted to: Bruce Harbeck, 13408 Westwood Lane, Omaha, NE 68144. (402) 333-9013.

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HALLDORSON 3 to 1 audio transformer, copper casing. hard rubber panel 10 x 11 x 1/4. Gordon Wilson, 11108 - 50 Avenue, Edmonton, Alberta, Canada, T6H 0H9.

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DETECTOR and AUDIO PORTION of GREBE CR2. Also need cabinet for same. NEED FRONT PANEL FOR SCOTT Phantom DELUXE. Larry Steeno, 2728 42nd Street, Two Rivers, WI 54221. (414) 794-7320.

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MARCONIPHONE VIII cabinet, also Marconiphone VI chassis, or complete radios cash, or generous trade. Gordon Wilson, 11108 - 50 Avenue, Edmonton, Alberta, Canada, T6H 0H9.

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WANTED: EMPTY CABINET for a Philco model 20 cathedral radio. I already have the radio and speaker. Must be in good condition. Joe Beach, 6515 Sunset, Garden City, MI 48135.

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WANTED— CABINET AND PARTS FOR A FEDERAL 61. Mike Kibler, 300 Speiter #39, Danville, IL 61832. (217) 267-3703.

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WANTED: ONE TUNING DIAL and one coil tap knob for a Crosley model XJ. Jack Emery, Box #84, 5546 Union Street, Lexington, MI 48450.

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TUBES: EARLY UV-217, type CA pliotron, DeForest DV-1 and DV-6, adapter for DeForest type T audion to fit candelbra socket. Parts: rheostat assembly and knob for Tuska 224 rcvr.; case w/hardware for Radiola balanced amplifier. B. T. Wooters, W5KSO, 8303 E. Mansfield Avenue, Denver, CO 80237, (303) 770-5314.

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WANTED — PHILCO

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PHILCO MODEL 20B 1930 "Baby Grand" radios. Original finish, and no chassis changes a must. Must be conpletely original and in working condition. Will pay top price for a real nice one. All replies will be answered. Write: Ronald G. Burtzos, 915 Crane Drive, Apt. 703, DeKalb, IL 60115.

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PHILCO MODEL 90B, working or not. Original speaker from Philco model 20— must be in good shape. Thomas Abell, 1022 S. Edison Ave., South Bend, IN 46619. Phone (219) 234-8405.

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CHASSIS ONLY FOR PHILCO cathedral, model 37-61, Charles A. D'Alessio, 136 Changebridge Road, K4, Montville, NJ 07045. ((201) 263-4747.

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WANTED — PLASTICS

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WANTED: CATALIN RADIOS. All makes: FADA, OSWALD, EMERSON, MOTOROLA, etc. Top prices paid. R. Wayne Oliver, 355 Highwood Avenue, Leonia, NJ 07605. (201) 944-0777.

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WANTED — ZENITH

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ZENITH TRANSISTOR Trans-Oceanic 11 or 12 band radio- parts or com-plete. Have Rider TV manuals 2 thru 23 for offer. Wade, 657 14th Ave., Prospect Park, PA 19076.

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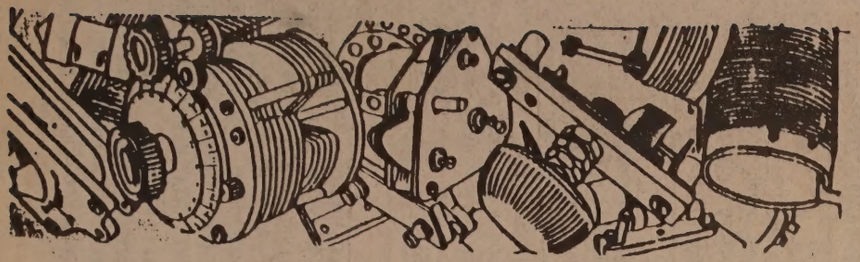


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- Radios, The Golden Age - Philip Collins

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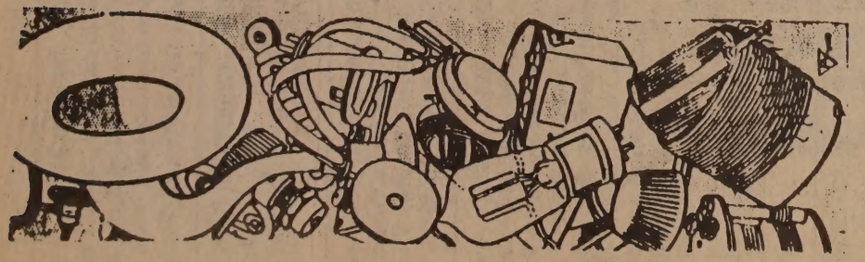

September

# THE HORN SPEAKER

1988

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